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ABSTRACT

Observations and recommendations concerning higher education administration in Morocco are offered by an American academic affairs officer who served as a consultant in 1981. Under a 6-week Fulbright lectureship supervised by the Rector of Mohammed V University in Rabat, Morocco, the American consultant discussed administrative problems and procedures with Moroccan staff, interviewed students, and examined documents and brochures. The following concerns in the area of student affairs administration are addressed: scheduling, registration, evaluation, remediation, program change, and student morale. The administrative structure is also examined, with attention to division of labor, decision making, and administrative morale. Also covered are academic support structures (the library, recordkeeping, and financial administration); and faculty affairs administration (teaching loads, faculty development and evaluation, program development, and faculty morale). The staff who were interviewed are identified, along with documents that were consulted. (SW)

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Report
of
April 13-May 26, 1981
Consultancy in Educational Administration
Supervised by the Rector
of
Mohammed V University
Rabat, Morocco

Submitted by

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Preliminary Remarks

The document which follows is the result of a short-term Fulbright lectureship conducted under the auspices of the Rector of Mohammed V University in Rabat, Morocco. The author spent six weeks discussing administrative problems and procedures with the individuals whose names appear on the following page, with various students met in random conversations and with the Rector himself. In addition, she read pamphlets, brochures and administrative documents given her by the various administrators whom she interviewed. A list of these documents appears in the appendix.

The observations and recommendations set down here are, therfore, based on limited information. They are, however, as clear and honest as the author could provide given these limitations, and may serve two purposes: (1) to stimulate discussion among those whose duty it is to shape Moroccan higher education, and (2) to pinpoint those aspects of the Moroccan system which are not yet clearly enough defined so that an educated observer may understand their function and intent.

It is hoped, therefore, that both the recommendations based on a correct understanding of current practice, and those based on an incomplete understanding of it may be helpful.

LIST OF MEETINGS

- 4/22/81 — Ecole Nationale d'Administration Publique
2, Avenue de la Victoire
Directeur: M. Mohamed BEN ALLAL

- 4/23/81 — Faculte des sciences Juridiques, Economiques et Sociales
Boulevard des Nations Unies pres le la Cite Universitaire de l'Agdal
Doyen: Abdelaziz BENJELLOUN

- 4/23/81 — Faculte des Lettres et des Sciences Humaines
Doyen: Mohammed HAJJI
Vice Doyen: Mustapha CHAP I

- 4/24/81 — Institut Agronomique et Veterinaire Hassan II
Charia Maa El Anaine, Complexe universitaire
Directeur: Abdallah EL BEKKALI

- 4/24/81 — Institut National de Statistiques et d' Economie Appliquee
Charia Maa El Anaine, Complexe universitaire
Directeur Adjoint: M. BOUBKRAOUI
Directeur: Mustapha BENYAKLEF

- 4/25/81 — Faculte des sciences
Avenue Ibn Batouta
Vice Doyen: M. FERHAT

- 4/27/81 — Ecole Mohammadia d'Ingenieurs
Charia Ibn Sina
Director adjoint: Saad DAOUDI
Secretaire general: MOHAMMED BELEQUIH

- 4/38/81 — Faculte de Medecine
Pres de l'Hopital Avicenne
Doyen: Bachir LAZRAK

- 5/5/81 — Faculte de Medecine Universite HASSAN II, Casablanca
Doyen: Abdeslam SRAIRI

- 5/5/81 — Institut Superieur de Commerce et de Gestion des Entreprises, Casablanca
Directeur: Mohammed ALAOUI M'DAGHRI

- 5/4/81 & - 5/6/81 — Seminars with the personnel of the Rectorate
Souad ANEGAY, Yahya BENABDELMOUMEN, Mohammed BENKERROUM, Said MALHOUM, Hourine HALIBI, Mustapha HADDOU, Raja LAHLOU, Zoubeda CHAMA

- 5/15/81	Institut National d'etudes Judiciaires (INEJ) Directeur: Driss DAHAK
- 5/20/81	Faculte des lettres, Fez Doyen: M. TAZI-SOAUD
- 5/24/81	Faculte des Sciences, Marrakesh Doyen: M. KNIDIR

GENERAL OBSERVATIONS AND RECOMMENDATIONS

I) Student Affairs

A) Scheduling

Observation: The students with whom I spoke voiced common concerns: (1) time wasted in bureaucratic affairs, (2) months wasted during which they cannot progress toward their goal of completion of a degree, (3) over crowded classrooms in which it is difficult to learn. All of these problems have two causes (1) the great increase in numbers of students to be served and (2) scheduling difficulties.

Recommendation: Three strategies to remedy these difficulties should be considered and evaluated:

1) New classrooms could be constructed and additional clerical employees hired. This strategy is expensive, takes considerable time to effect, and does not address problem #2 above.

2) The academic calendar could be changed to create three semesters, e.g., Sept-Dec, Jan-Apr, May-Aug. Students could register for all three semesters, thus speeding completion of their studies. American experience shows that most do not. However, enough would so that the number of students to be registered and instructed during the fall and spring semesters would be smaller, facilitating administration of registration and scheduling, and reducing classroom crowding. Professors could elect to teach all three semesters for additional salary, or could use one of the three for vacation, travel or research. This would give teachers additional flexibility, as not all of them would be seeking travel and research opportunities during the summer when such opportunities are least available. A small number of additional administrators and clerks would need to be hired to replace those administrators vacationing during any given semester.

3) Educational internships (stages) which are already used by most of the "ecoles" and "instituts" could be instituted in the over crowded facultés, and scheduled throughout the academic year, thus removing a number of students from crowded classrooms. Summer internships designed to replace part of their classroom instruction would speed students toward completion of their degrees. Such internships require, however, careful supervision and evaluation and would require the hiring and training of additional academic personnel.

B) Registration

Observation: All of the administrators questioned believe that computerization is the answer to their clerical problems.

Recommendation: This may well be so. Before attempting this solution, a very careful cost/benefit study should be done which includes costs not only of the computer to be purchased for administrative purposes, but the costs of personnel to run it, their training, the costs of personnel to repair it and their training, and the costs of back-up strategies to replace it during periods when it is not functioning properly. These periods always occur. It may be found that salaries for additional clerks to improve the manual operation would be considerably less than the cost of computerization.

If computerization is selected, distinct cost centers should be established to distinguish among computer use for (a) administrative purposes, (b) computer use to teach computer science, and (c) computer use as a teaching tool in other disciplines. As the same computer can be programmed for all three purposes, it has been our experience that constant and complex monitoring of its use is necessary to prevent confusion, waste and internal dissention.

C) Evaluation of students

Observation: Great amounts of administrative time and effort are now spent preparing, giving and evaluating two major testing periods, one in early

summer and one in September. Students who fail these examinations must repeat the work of an entire year. While this system has the instructional advantage of forcing students to integrate their knowledge into coherent blocks, it is basically wasteful of both student and administrative time. Students must restudy those aspects of the material which they already have learned; administrators and teachers must set up complex systems of testing. The "instituts" and "écoles" use a system of continuous evaluation in which tests devised and administered by individual teachers are spaced throughout the academic year and the student's success or failure is determined in part by the average of his grades on these tests. The student must repeat only those parts of the material to be learned which he has failed to master. Recommendation: A system of continuous evaluation should be instituted in the "facultés," gradually, and on an experimental basis. A good starting point will be the 2^{e} cycle which has fewer and better students, as the less capable have been weeded out during the first cycle. It could later be extended to the first years of university study.

D) Remediation

Student testing serves two purposes; it eliminates the incompetent, and it diagnosis areas of weakness so that they may be remedied. Observation: Student testing in the facultés serves only the first purpose. Student testing in the instituts and ecoles often serves the latter. Thus the best prepared students are helped to be even better, and the less prepared students are eliminated from higher education without first being helped to do better. Their time, their teachers' time, and government money have been wasted. Recommendation: If a system of continuous evaluation is instituted in the facultes, it should be accompanied by remedial classes and tutoring services which the failing student could elect to attend. Each of these classes

should be designed to teach some specific area of the curriculum in which numbers of students have shown themselves to be deficient, e.g., logical organization of essays, fundamental mathematical operations.

E) Program change

Observation: A student's choice of high school specialization determines what he may study for the rest of his academic life, and ultimately determines his life's work. This has the advantage of producing a few highly trained specialists. It has the disadvantage of producing large numbers of people trapped in a specialty which they chose while too young and inexperienced to know their own interests and capabilities. The former tend to find their way into the instituts and ecoles where they often become useful and productive workers and leaders. The latter often find themselves in the facultés where, if they succeed they may or may not find work which is congenial and at which they are competent. If they fail, they may well join with others like them - frustrated, semieducated, feeling vaguely cheated - creating a group of unstable, unhappy citizens who are a danger to the stability of the country.

Recommendations:

1) Those in charge of secondary education should be asked to reevaluate the high school curriculum with a goal of making it more general, and pushing back the time of specialization.

This is particularly important for mathematical training. Almost all research and study in the fields of letters and social science requires more mathematical background than the Morrocan students in these disciplines possess. Basic algebraic and statistical methods should be taught every high school student, no matter what his future educational plans.

A special past-graduate year could be instituted to permit intensive preparation in mathematics and science for those who discover late that they

have an interest in and aptitude for these subjects. Conversely, an intensive preparation in languages and social science should be available to those who discover late that these fields might be best for them. The material that a fourteen year old needs two years to learn can often be learned by a nineteen year old in six months.

2) The facultés and the écoles and instituts have, in many cases, 1^{e} cycle programs which are very similar, e.g., Faculte de droit and ENAP; Faculte des sciences, Ecole de Médecine, and Institut agronome. Special examinations given at the end of the 1^{e} cycle would permit some students to change orientation at this point.

F) Student morale

Observation: Administrators and students alike have said that in many areas of higher education, student discontent is endemic and there are student strikes for both political and academic reasons.

Recommendations:

1) None as far as political problems are concerned as the author has no knowledge of Morrocan politics.

2) It is our experience that student morale is highest when students participate in, and feel responsible for, their education. Student membership on departmental committees is most useful as students have daily contact with the department's teachers and director. (See description of department chairmen in Ions administrative manual.)

Part of the student scholarship could be in the form of salary for work for the university. We have found in the United States that students who work approximately ten hours per week tend to improve their academic performance. Students can perform many necessary tasks - in the library, in administrative offices, for professors. Their work not only improves their morale but saves

university money which can be better used than in paying salaries to semi-skilled workers.

II) Academic Support Structures

A) The Library

Observation: Every administrator with whom I talked expressed concern over (1) the acquisition of book and periodical holdings sufficient to serve his students and teachers, (2) the administration of the library in such a way as to make these books and periodicals available to students and teachers in the most efficient way possible (3) the fact that students tend to study from class notes rather than library books.

Recommendations:

1) That the present level of budgetary allocation to the libraries be continued. A rule of thumb is that 10% of an institution's annual operating budget will maintain a collection. Most Moroccean institutions are spending far more than 10%; they will, therefore, gradually build fine collections. It would perhaps be helpful to bring in an expert consultant on library acquisition to suggest ways of building this collection in the most effective and efficient way possible.

2) That the central administration decide as soon as possible on the cataloguing system to be used so that the large collections now being built need not be recatalogued at a future date. When Arabisation the system is complete, it may well be found that the French system now in use is not the best for Maroccan libraries. Again, an expert librarian could offer useful advice about the strengths and weaknesses of various systems.

3) Several facultés, instituts and écoles offer overlapping programs. Access to all their libraries should be open to all students and teachers within these overlapping programs. The student cards now in use could be

altered slightly to permit this. Card catalogues conveniently located near the entrance to libraries would permit individuals to ascertain rapidly if and where the materials they seek are available. A special brief program on the use of the library as a research tool should be part of every high school curriculum. Photocopies of library materials should be charged to students at their real cost plus a small profit. This profit should be used by the library to purchase more books and periodicals.

4) From the last years of high school on through all higher education, some of the questions on examinations should be based on materials other than those taught in the classroom. Students should be made aware of this, and a bibliography of the books and periodicals which contain the answers to these questions should be made available at the beginning of each academic semester. This will insure that students consult library materials and create habit patterns which encourage individual research and discourage over-reliance on lecture notes.

2) Record Keeping

Observation: The Secretaire general of each institution keeps a wide variety of records in a wide variety of ways -

1) for students by discipline and year he has records of registration, examination and scholarship payments

2) for employees he has records of employment and salary

3) for maintenance of the physical plant he has records of purchase, payment and use of supplies and equipment.

Recommendation:

This centralization of records of different kinds seems confusing and presents numerous management problems. A management consultant could probably point out ways of simplifying and reorganizing procedures. I would recommend that a division of records into:

1) academic records of students

2) financial records of students

3) academic and financial records of faculty

4) financial records of non-teaching employees

5) financial records of building maintenance

would be a start to this division of labor. The organization of Iona College appended here is both an outline of division of authority and of division of record keeping. It might be studied to determine if it could be adapted to Moroccan use to break down the centralization of duties now under the Secretaire general.

C) Financial Administration

Observation: Most of the administrators with whom I talked said that the system of scholarships designed to serve a few hundred high school graduates per year when instituted in the 1950's was not able to serve the several thousand graduates of the present. They complained that it created a student mentality which made education the gift of the state rather than a value to be earned. They also told me that wealthy non-Moroccans also receive these stipends thus creating resentment against them by poorer Moroccan students.

Recommendations:

1) If the present system of scholarships is continued, it would be psychologically and managerially better to have the money given to the student by the appropriate ministry, and then paid by the student to the school he attends. This takes the financial record keeping out of the school where it adds to the complexity of school administration, and it makes it clear to the student that his instruction has a cost.

2) The awarding of scholarships could be based on the student's ability to pay. This could be determined by the income tax paid by his family.

Although only a small percentage of students would be affected, even this small percentage would create monies which could be used to improve the schools.

3) Part of the scholarship could be given in the form of salary for work at the school. See I, F above.

Observation: Many administrators told me that because their teachers are employees of a ministry and not of the school, school administrators have no money to use as a stimulus to professional development.

Recommendation: See III, B

III) Administration of Faculty Affairs

A) Teaching Loads

Observation: Almost every school administrator to whom I talked discussed problems related to inequal distribution of teaching duties.

Typical Case #1 - Some teachers teach too much - earning extra salary by teaching in institutions other than the one to which they are assigned. These professors are so busy teaching that they have neither time nor energy to keep up to date in their discipline, to engage in research and publication, or to counsel and advise students.

Recommendation: A maximum number of hours which a teacher may teach per week should be determined by the central administration; this should be conveyed to all directors of institutions, and a procedure for enforcing it should be set up. Exceptions should not be permitted. They demoralize the teachers, and undermine the quality of instruction.

Typical Case #2

Observation: Some teachers teach too little. In general, the more qualified teach less than the less qualified.

Recommendation: A teacher is paid, not because he holds a diploma or has succeeded at a competitive examination, but because he teaches. A minimum number of hours per week should be established by the central administration; this should be conveyed to all directors of institutions, and a procedure for enforcing it should be set up. Exceptions should not be permitted. They demoralize the teachers, and make proper administration of the institution difficult and demoralizing for the administrators. There are professional ways to release a teacher from all or part of his teaching duties so that he may continue his professional growth. They will be discussed below.

Typical Case #3

Observation: Some teachers refuse to teach elementary or survey courses because they wish to teach only their specialty.

Recommendation: Each administrator, several months before scheduling the next semester should ask each teacher in writing which courses he wishes to teach, and inform him that courses which must be taught and which no one selects will be assigned in rotation. A deadline for reply must be included in this letter, with a warning that if no reply is received by that deadline, the teacher will be scheduled by the administration. In as far as possible, the individual teacher's requests should be honored. Unpopular courses should be rotated systematically through the department so that no one is treated unjustly.

B) Faculty Development and Evalution

Observation: Several administrators told me that because the teacher who teaches well and continues his professional growth receives no reward, and because the teacher who teaches badly and stagnates professionally receives no punishment, there is little incentive to do well. Most teachers find in-

centive in the joy of their teaching and study, but some do not, and they harm their students and demoralize their colleagues.

Recommendations:

1) Teachers who do not do well should be allowed, encouraged and helped to resign and find more congenial work.

2) All teachers should be evaluated, advised and encouraged by their peers. Every department chairman should visit the classes of his teachers at least once a year, and discuss with them individually the strengths and weaknesses he observed.

3) Each institution should have a sum of money allotted to it yearly. This money should be used to pay for sabbatical study, attendance at professional workshops and conferences, books and equipment needed for professional study, release time from teaching duties for personal growth and study.

A committee composed of all department chairmen and the chief administrator of the school should sollicit and evaluate applications for these monies. The teacher who applies must furnish a detailed account of what he intends to do, how much money he needs to do it, how it will improve his teaching, and what product will result from it, e.g., advanced diploma, published book or article, etc.

The committee should read and discuss each application, and determine by secret ballot which applications will be funded. Over a period of time, as wide a variety of requests, and as wide a variety of professors as possible, should be funded.

Little by little, the knowledge that professional growth will be supported and rewarded will spread through the faculty and encourage effort.

C) Program Development

Observation: Several administrators asked me about "reforme" procedures; I did not understand them at first because the notion of sudden, decisive change in curriculum instituted by administrators is not part of American experience. American college curricula change in two ways:

1) Established program of study are updated continuously by teachers within a given discipline through departmental curriculum committees. When the changes in given courses are extensive enough to require new catalogue descriptions, new syllabi are prepared, submitted to the college curriculum committee, reviewed there, and either approved or sent back to the department for further clarification and change. If approved by January the changed program is included in the catalogue, and required of all entering students the following year. Students who have already begun study under the old program are permitted to continue in it until they complete their degree. Thus program change requires four years to become fully operative in undergraduate programs.

2) New programs of study (not previously offered by a particular school), may be suggested by one or more departments, or proposed to the administration of a college by the Board of Trustees whose contacts with area industry or institutions have indicated a need for such programs. In either event, the new program is developed by a committee of teachers and administors and submitted to the curriculum committees of the school and college, and finally to the Faculty Senate and Board of Trustees. If approved, the new program proposal must be sent to the University of the State of New York State Education Department (SED). (Other states have other procedures; I describe what I know best.)

The SED serves as a coordinating body which reviewes new programs to make sure that

1) There is a need for the graduates of it.

2) The program is academically sound.

3) The college has the resources - money, staff, classroom and laboratory space, library holdings - to teach the program correctly.

4) The program does not duplicate one given by another college in the same geographical area.

The request to the SED for permission to offer the program is long, difficult to prepare, and must be substantiated by extensive statistical evidence that conditions 1-4 above have been met. Only when SED approval has been obtained may the college include the new program in its catalogue, advertise it, and recruit students.

Recommendations:

1) For change in existing programs.

Continuous, faculty generated change is the least disruptive way to keep programs up to date. Departments should have curriculum committees which meet several times a year to discuss current offerings, and when needed, propose changes. Service on these committees should be a contractual obligation of all teachers and an evaluation of their commiteee service should be part of the documentation required before they are considered for promotion and salary increment. Students engaged in a program of study should never be forced to meet course requirements instituted after they have begun a program. American students would sue the university if this were attempted; I suspect that Moroccan students would strike.

2) Institution of new programs:

The central planning committee of the government of Morocco must know best what new programs are needed by the nation. I do not know how they determine need, but do suggest that they use as consultants teachers and

administrators in existing programs which are in any way related to the new program. This consultancy serves several purposes:

1. It prevents needless duplication of effort if parts of the new program can be taught and/or administered in existing programs;

2. It provides a source of expert advice useful in developing the new program;

3. It defuses possible opposition to the new program. People who have had a part in creating a program are less likely to sabotage it.

D) Faculty Morale

Observation: Many administrators told me that because their teachers are state employees they do not feel responsible for the schools in which they teach. They do their work and go home.

Recommendation: Esprit de corps is a difficult and time-consuming thing to create. The reforms in faculty affairs recommended above help to create an atmosphere in which team spirit becomes possible.

Each institution should have a corps of teachers assigned to it and who teach only in it. They should have special rank and status within the institution, and should form the nucleus of all committees of the institution. One of their duties should be student advisement and supervision.

Team spirit is composed of a mixture of professional pride and social adhesion. To the extent possible, the chief administrator of each institution should bring his core faculty together frequently, to discuss professional and school matters, and to celebrate informally the successes of individual faculty members.

III. The Administrative Structure

A) Division of Labor

Observation: Without exception the administrators with whom I spoke were overworked. Every conference I had with them was interrupted frequently by telephone calls and assistants who appeared with papers to be read and signed. As nearly as I could tell, most of the matters brought to the attention of the directors in this manner were affairs which should have been sent elsewhere and should not have required the attention of the chief administrative officer.

Recommendations:

1) A man cannot serve two masters, and certainly not more than two. A chief academic officer's responsibility should be to his school. His duties elsewhere should be kept to a minimum and should only exist insofar as they provide him with clear and immediate sources of support for his school.

2) A carefully thought out administrative manuel should be written for each institution with the duties and powers of decision of each administrator spelled out. No one should have more than six or seven administrators reporting directly to him, and each of them should report weekly at a fixed time. Decisions which require the consultation or approval of higher authority should be made at that time.

3) Except in cases of dire emergency, these meetings should not be interrupted.

4) The function of the Secretaire General covers too many areas. Matters connected with the teaching corps should be supervised by the dean or director with whatever assistance he may need. These include hiring, firing and promotion of teachers; assignment of faculty work loads; supervision and encouragement of research; budgeting of academic support services--the library and departmental equipment and supplies.

The Secretaire General's duties should be limited to student affairs. These include registration, payment of scholarships (to be eliminated if possible, see above), maintenance of student records, student schedules. Directors of non-academic affairs - housing, building maintenance, student organizations and athletics should report to him and through him to the dean or director.

The Director of the Library should have control of his domain, duplicating services, hiring, firing and training of library personnel, purchasing of equipment and supplies. His budget should be negotiated with the dean or director, and spent after negotiation with department chairmen. He should serve on every committee which touches upon the academic life of the institution.

B) Decision Making

Observation:

The chief administrators I observed seemed to be making decisions about matters that concerned individuals or small parts of the school. Some told me they did this because those reporting to them were unwilling or unable to do so. This need to decide too many things was a major reason for their over work.

Recommendation: The creation of a group of managers willing and able to take responsibility for their area requires time and patience. The recommendations listed above create a climate in which such a creation becomes possible. To be able to assume responsibility, a man must have:

1. an area small enough so that he has direct personal contact with everyone who works in it;
2. a clear statement of the limits and conditions of his authority within it which is known to every member of his team;

3. within the boundaries of that authority, his decisions should rarely, if ever, be negated by his superior, and then only in cases where the decision will have immediate and dire effects on the other parts of the institution;

4. he should bring only very exceptional cases to his supervisor for consultation and decision.

The difficulties involved in the formation of such individuals include the creation of organizational structures and job descriptions, the danger of lack of coordination among the divisions of the institution, and unfortunate consequences of decisions made by a large number of people. These difficulties must be weighed against those of the present structure which include not only massive over-work on the on the part of chief administrative officers, but also prolonged delay between proposal and decision, time wasted by students, teachers and administrators as they wait for the decision, their attendant demoralization, and failure to train future chief administrative officers.

Decision making is a learned skill, acquired by a long period of practice making small decisions and observing their consequences. To place a man without this practice in a position where his decisions will have far-reaching effects is to court disaster.

Afterword

Moroccan higher education has clearly made remarkable progress in the quarter of a century since independence. Using the French model of a mixture of universities and specialized "instituts" and "grandes écoles," it has built a large and serviceable network of institutions, spread them throughout the country, and educated large numbers of citizens who are now, or will be, Morocco's leaders. It is an accomplishment of which the nation should be proud. The observations and recommendations written here deal only with minor refinements of a structure which is basically sound.

The function of administration is to permit continual change to occur without disrupting the life of educational institutions. The suggestions listed above are based on American experience with methods and procedures which have encouraged change without creating disruption.

Morocco has already found, and is still finding, methods and procedures which work for her. It is my hope that some parts of the repertory of change strategies described here may be useful in Morocco.

APPENDIX Documents Consulted

1. Decrets issus du Royaume du Moroc entre 1962 et 1975 fixant l'organisation et les attributions du Ministere de l' Enseignement Superieur, l'organization et la creation de l' Universite et des establissements universitares: les statuts qui governent le personnel enseignant - chercheur.

2. Brochure officielle (1978-79) de l'Ecole Mohammadia d'Ingenieurs

   Rapport d'Activite (1979-80) de l' Ecole Mohammadia d'Ingenieurs

3. Carrieres 4: Guide a l'usage des classes terminales de l'Enseignement Secondaire, Janvier 1979.

4. Statistiques (1980-81) de l'Ecole nationale d'Administration publique.

   Brochure de l'Ecole nationale d'Administration publique

5. Programmes d'Enseignement de l'Institut national de statistique et d'economie appliquee (1979-80).

   Points de repere: INSEA

6. Note de Synthese (1980) et

   Textes Reglementaires de l'Institut agronomique et Veterinaire Hassan II.

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